

CLAIMS

1. Apparatus for establishing an electrical ground connection, comprising:
a pipe having an interior region for accommodating fluid flow;
an electrically conductive element disposed at the interior region of the
5 pipe for exposure to a fluid therewithin; and
means disposed outside the pipe and operative to provide an electrically
conductive path between the conductive element and an electrical ground source external
to the pipe, whereby an electrical ground path is established with fluid in the interior
region of the pipe.
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2. Apparatus as in Claim 1, wherein the pipe is substantially electrically
nonconductive.
3. Apparatus as in Claim 1, wherein the conductive element is spaced apart
15 from an inner wall defining the interior region of the pipe.
4. Apparatus as in Claim 3, wherein the conductive element comprises a
metallic rod extending within the interior region.
- 20 5. Apparatus as in Claim 4, wherein an end of the rod extends external to the
pipe, for operative association with the means.

6. A plumbing fitting for establishing an electrical ground connection to a plumbing system including at least one nonmetallic component, the plumbing fitting comprising:

5 a plumbing element adapted for connection in fluid flow relation to the plumbing system;

an electrical conductor associated with the plumbing element for contact with fluid therein, so as to establish an electrically conductive path between the conductor and the fluid; and

10 the electrical conductor extends outside the plumbing element for connecting to an electrical ground source so as to establish an electrical ground path between the electrical ground source and an electrically conductive fluid within the plumbing element,

whereby the electrical ground connection extends to an electrically conductive element despite a nonconductive element in the plumbing element and the plumbing
15 system intermediate the electrically conductive plumbing fitting.

7. The plumbing fitting as in Claim 6 wherein the plumbing element is substantially electrically nonconductive.

20 8. The plumbing fitting as in Claim 6, wherein:

the plumbing element has plural ports for connecting to the plumbing system; and

the electrical conductor comprises a rod extending into the plumbing element for contact with fluid entering through the ports.

9. The plumbing fitting as in Claim 8, wherein the rod has a free end
5 extending a distance out of one port, so that the rod can extend into a conduit connected to the one port for contact with fluid in the conduit.

10. The plumbing fitting as in Claim 8, wherein the rod is substantially
coaxial with one such port and extends a distance out of the one port, so that a portion of
10 the rod extends into a conduit connected to the one port for contacting a fluid in the conduit.

11. The plumbing fitting as in Claim 10, wherein the plumbing element is
made of substantially electrically nonconductive material.

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12. Apparatus for establishing an electrical ground connection, comprising:
an electrically nonconductive pipe element for accommodating fluid flow;
and

an electrically conductive element disposed within the pipe element for
20 exposure to a fluid therewithin, and extending outside the pipe element for connection to an electrical ground source, whereby an electrical ground path is established between the ground source and an electrically conductive element in contact with the fluid in the nonconductive pipe element.

13. A method for establishing an electrical ground connection, comprising the step of:

5 disposing an electrical conductor within an electrically nonconductive pipe element; and

providing a conductive path that extends from the electrical conductor to a connection point outside the pipe element, for attachment to an electrical ground.

14. The method as in Claim 13, comprising the further step of installing, into a
10 piping system having at least one electrically non-conductive component, an apparatus prepared according to said claim.